



North/Latin America
Europe/Africa
Asia/Oceania

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LCD TV

SERVICE MANUAL

CHASSIS : LA75A

MODEL : 42LC6DF 42LC6DF-UL
42LG20 42LG20-UM

CAUTION

BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.

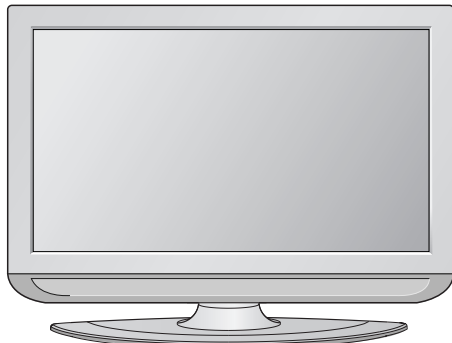


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Product Safety



TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK). NO
USER SERVICEABLE PARTS INSIDE. REFER TO
QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING/CAUTION

TO REDUCE THE RISK OF FIRE AND ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

NOTE TO CABLE/TV INSTALLER

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the National Electric Code (U.S.A.). The code provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of the cable entry as practical.

WARNING / CAUTION

To prevent fire or shock hazards, do not expose this product to rain or moisture.

FCC NOTICE

Class B digital device

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CAUTION

Do not attempt to modify this product in any way without written authorization from LG Electronics. Unauthorized modification could void the user's authority to operate this product.

IMPORTANT SAFETY INSTRUCTIONS

Important safety instructions shall be provided with each apparatus. This information shall be given in a separate booklet or sheet, or be located before any operating instructions in an instruction for installation for use and supplied with the apparatus.

This information shall be given in a language acceptable to the country where the apparatus is intended to be used. The important safety instructions shall be entitled "Important Safety Instructions". The following safety instructions shall be included where applicable, and, when used, shall be verbatim as follows. Additional safety information may be included by adding statements after the end of the following safety instruction list. At the manufacturer's option, a picture or drawing that illustrates the intent of a specific safety instruction may be placed immediately adjacent to that safety instruction:

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.



- 1** Do not use this apparatus near water.



- 2** Clean only with dry cloth.



- 3** Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.



- 4** Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.



- 5** When mounting a TV it on the wall, make sure not to install TV by the hanging power and signal cables on the back of the TV.

- 6** Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.



- 7** Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.



- 8** Only use attachments/accessories specified by the manufacturer.



- 9** Unplug this apparatus when unused for long periods of time.



- 10** Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 11** Never touch this apparatus or antenna during a thunder or lighting storm.

- 12** Do not allow a impact shock or any objects to fall into the product, and do not drop onto the screen with something.

- 13** Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has exposed to rain or moisture, does not operate normally, or has been dropped.



- 14** **CAUTION** concerning the Power Cord : Most appliances recommend they be placed upon a dedicated circuit; that is, a single outlet circuit which powers only that appliance and has no additional outlets or branch circuits. Check the specification page of this owner's manual to be certain.

Do not overload wall outlets. Overloaded wall outlets, loose or damaged wall outlets, extension cords, frayed power cords, or damaged or cracked wire insulation are dangerous. Any of these conditions could result in electric shock or fire. Periodically examine the cord of your appliance, and if its appearance indicates damage or deterioration, unplug it, discontinue use

of the appliance, and have the cord replaced with an exact replacement part by an authorized servicer. Protect the power cord from physical or mechanical abuse, such as being twisted, kinked, pinched, closed in a door, or walked upon. Pay particular attention to plugs, wall outlets, and the point where the cord exits the appliance.



- 15** Outdoor use marking :
WARNING - To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.



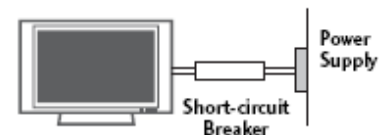
- 16** Wet Location Marking : Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on or over apparatus.



17 GROUNDING

Ensure that you connect the earth ground wire to prevent possible electric shock. If grounding methods are not possible, have a qualified electrician install a separate circuit breaker.

Do not try to ground the unit by connecting it to telephone wires, lightening rods, or gas pipes.



- 18** **DISCONNECTING DEVICE FROM MAINS**
Mains plug is the disconnecting device. The plug must remain readily operable.

Specification

MODELS		Z32LC6D (Z32LC6D-UK, Z32LC6D-UM)	Z37LC6D (Z37LC6D-UK, Z37LC6D-UM)
Dimensions (Width x Height x Depth)	Including stand	31.8 x 23.6 x 10.8 inches 806.4 x 598.9 x 273.9 mm	36.8 x 26.6 x 11.3 inches 934.3 x 675.9 x 285.6 mm
	Excluding stand	31.8 x 21.4 x 3.1 inches 806.4 x 542.4 x 79.0 mm	36.8 x 24.8 x 3.5 inches 934.3 x 628.5 x 88.5 mm
Weight	including stand	29.3 pounds / 13.3 kg	43.7 pounds / 19.8 kg
	excluding stand	25.6 pounds / 11.6 kg	36.0 pounds / 16.3 kg
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm	
Environment condition	Operating Temperature Operating Humidity	32 ~ 104°F (0 ~ 40°C) Less than 80%	
	Storage Temperature Storage Humidity	-4 ~ 140°F (-20 ~ 60°C) Less than 85%	

■ The specifications shown above may be changed without prior notice for quality improvement.

Penal Spec. for 32" model

1. Scope:

The incoming inspection standards shall be applied to TFT-LCD Modules (hereinafter called "Modules") that supplied by AU Optronics Corporation (hereinafter called "seller").

2. Incoming inspection right:

The buyer (customer) shall inspect the modules within twenty calendar days since the delivery date (the "inspection period") at its own cost. The results of the inspection (acceptance or rejection) shall be recorded in writing, and a copy of this writing will be promptly sent to the seller.

The buyer may, under commercially reasonable rejection procedures, reject an entire lot in the delivery involved. Within the inspection period, if the samples of modules within a lot show a number of unacceptable defects in accordance with this incoming inspection standards, the buyer must notify the seller in writing of any such rejection promptly, and not later than within three business days of the end of the inspection period.

Should the buyer fail to notify the seller within the inspection period, the buyer's right to reject the modules shall be lapsed and the modules shall be deemed to have been accepted by the buyer.

3. Inspection sampling method:

Unless agreed in writing, the method of incoming inspection shall be based on MIL-STD-105E.

3-1 Sampling type: Normal inspection, single sampling.

3-2 Sampling level: Level II.

3-3 Acceptable quality level (AQL):

Major defect: AQL=0.65%.

Minor defect: AQL=1.0%.

4. Inspection instruments:

4-1 Pattern generator: model LD-2000 or equivalent.

4-2 Video board: AU video board or equivalent. The output of the signal should comply with the specifications provided by AU.

5. Inspection Method:

5-1 Ambient condition

A. Temperature: 20 ~ 25°C

B. Humidity: 65±5% RH.

C. Lumination: A single 20W fluorescent lamp (300 to 700 Lux)

5-2 Viewing distance

Be at a distance about 60±5 cm in front of LCD module with naked eyes.

5-3 Viewing Angle

Viewing line should be perpendicular to the surface of the module.

6. Classification of defects:

Defects are classified as major defects and minor defects according to the defect classification defined herein.

6-1 Major defects:

A major defect is a defect that is likely to result in failure, or to reduce materially the usability of the product for its intended purpose.

6-2 Minor defects:

A minor defect is either a defect that is not likely to reduce materially the usability of the product for its intended purpose, or a stray from an intended purpose with little bearing on the effective usage

Specific criteria of judgment on major and minor defects shall be in accordance with " the Classification of Defect " table below.

Defect items	Criterion for defects	Severity
Line Defect	Not allowed any vertical, horizontal and cross line	Major
Foreign Material	Shall be in accordance with the item 7.3 "Foreign Material" in this standard	Minor
Polarizer Defect	Shall be in accordance with the item 7.2 "Polarizer Defect" in this standard	Minor
Dot Defect	Shall be in accordance with the item 7.1 "Dot defect" in this standard	Minor
Mura	Shall be in accordance with the item 7.5 "Mura" in this standard	Minor

7. Inspection Criteria:

■ Electrical Inspection

7.1 Dot Defect

A. Every dot herein means a Sub-Pixel (each Red, Green or Blue color).

B. Dot defect is defined as that the defective area of the dot is larger than 50% of the dot area and should be visible under 2% ND filter.

7.1-1 Bright Dot

Bright Dot is defined as Dot (sub-pixel), which appears bright on the screen when the LCD module displayed at dark pattern.

Inspection Item	Criteria
R.G or B 1 dot	0

A partial bright dot damaged less than half size of sub-pixel is not counted as a bright dot defect and should be specified below.

Inspection Item	Criteria
5% ND filter Not-visible	Ignored
5% ND filter Visible 2% ND filter Not-visible	Max. 5 allowed

7.1-2 Dark Dot

Dark Dot is defined as Dot (sub-pixel), which appears dark on the screen when the LCD Module displays at bright pattern.

Inspection Item	Criteria
R.G or B 1 dot	Max.7 allowed
Adjacent 2 dots (horizontal and vertical)	1 pair
Minimum distance between dark dots	≥ 5 mm

7.1-3

Total amount of Dot Defects	Max 7 allowed
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■ Appearance Inspection

7.2 Polarizer Defects

A. Extraneous substances that can be wiped out such as Finger Prints, particles are not considered defects.

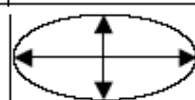
B. Defects on the Black Matrix (outside the Active Area) are not considered defects.

Inspection Items	Criteria
Linear Scratch	$0.15 \leq W \leq 0.3, L \leq 15, N \leq 5$
Bubble/Dent	$0.5 < D \leq 1.0, N \leq 5$

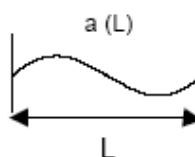
Where, W (mm): Width

L (mm): Length

D (mm): Average diameter



$$D = (a+b)/2$$



L = Longest point

Note) Linear: $a > 2b$, Circular: $a \leq 2b$

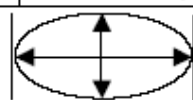
7.3 Foreign Material

Inspection Items	Criteria
Linear	$0.15 < W \leq 0.3, L \leq 15, N \leq 5$
Circular	$0.5 < D \leq 1.0, N \leq 5$

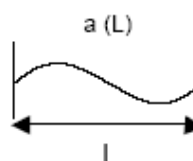
Where, W (mm): Width

L (mm): Length

D (mm): Average diameter



$$D = (a+b)/2$$



L = Longest point

Note) Linear: $a > 2b$, Circular: $a \leq 2b$

7.4 Bezel Appearance

Scratches, minor bents, stains, particles on the Bezel frame are not considered defects.

7.5 Mura

Inspection Item	Criteria
White Spot / Black Spot	Mura should be invisible while 2% ND filter apply

All other kinds of Mura should be invisible while 2% ND filter apply. **The judge way has to face the position of the defect.**

8. Inspection judgment:

8.1 If the number of defects is more than the applicable acceptance level, the lot shall be rejected and the buyer should inform the seller of the result of incoming inspection in writing.

8.2 Issues which is not defined in this criteria shall be discussed by both parties, Customer and Supplier, for better solutions.

9. Precaution:

Please pay attention to the following items when you use the LCD Module.

9.1 Do not twist or bend the module and also avoid any inappropriate external force on display surface during assembly.

9.2 Adopt good ventilation measures. Be sure to use the module within the specified temperature range.

9.3 Avoid dust or oil mist during assembly.

9.4 Follow the correct power sequence while operating. Do not apply the invalid signal otherwise it will cause unexpected shutdown that damages the module.

9.5 The response time & brightness might vary at different temperature.

9.6 Avoid displaying at certain pattern (e.g. the white pattern) for a long time otherwise it might cause image sticking.

9.7 Be sure to turn off the power while connecting or disconnecting the circuit.

9.8 Display surface Polarizer scratches easily, please avoid dirt or stains on it and handle with care.

9.9 A dewdrop may cause malfunction or worse situation. Wipe off any before using the LCD module.

9.10 Sudden temperature change might cause condensation of materials and possible polarizer damage.

9.11 High temperature and high humidity might undermine the performance. Do not expose the module to the direct sunlight and so on.

9.12 Avoid any acetic acid or chlorine compounds, which are harmful to the LCD module.

9.13 Static electricity might damage the LCD module. Avoid direct touch of the module without any grounded device connected.

9.14 Do not disassemble and reassemble the module by yourself.

9.15 Do not touch the rear of the LCD module directly to avoid possible electric shock by the high voltage of backlight. Make sure the power is off before proceeding.

9.16 Avoid any strong vibration or shock, which might cause a broken LCD module.

9.17 Store the modules in cool and dry environment with regular packing.

9.18 Be careful of possible injury caused by a broken module. Also avoid the pressure added onto the (front or rear) surface of modules, which might cause non-uniformity or other function issue to display.

Penal Spec. for 37" model

1. Scope:

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2. Incoming inspection right:

The buyer (customer) shall inspect the modules within twenty calendar days since the delivery date (the "inspection period") at its own cost. The results of the inspection (acceptance or rejection) shall be recorded in writing, and a copy of this writing will be promptly sent to the seller.

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Should the buyer fail to notify the seller within the inspection period, the buyer's right to reject the modules shall be lapsed and the modules shall be deemed to have been accepted by the buyer.

3. Inspection sampling method:

Unless agreed in writing, the method of incoming inspection shall be based on MIL-STD-105E.

3-1 Sampling type: Normal inspection, single sampling.

3-2 Sampling level: Level II.

3-3 Acceptable quality level (AQL):

Major defect: AQL=0.65%.

Minor defect: AQL=1.0%.

4. Inspection instruments:

4-1 Pattern generator: model LD-2000 or equivalent.

4-2 Video board : AU video board or equivalent. The output of the signal should comply with the specifications provided by AU.

5. Inspection Method:

5-1 Ambient condition

A. Temperature: 20 ~ 25°C

B. Humidity: 65±5% RH.

C. Lumination: A single 20W fluorescent lamp (300 to 700 Lux)

5-2 Viewing distance

Be at a distance about 100±5 cm in front of LCD module with naked eyes.

5-3 Viewing Angle

Viewing line should be perpendicular to the surface of the module.

6. Classification of defects:

Defects are classified as major defects and minor defects according to the defect classification defined herein.

6-1 Major defects:

A major defect is a defect that is likely to result in failure, or to reduce materially the usability of the product for its intended purpose.

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Specific criteria of judgment on major and minor defects shall be in accordance with "the Classification of Defect " table below.

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Mura	Shall be in accordance with the item 7.5 "Mura" in this standard	Minor

7. Inspection Criteria

■ Electrical Inspection

7.1 Dot Defect

A. Every dot herein means a Sub-Pixel (each Red, Green or Blue color).

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Bright Dot is defined as Dot (sub-pixel), which appears bright on the screen when the LCD module displayed at dark pattern.

Inspection Item	Criteria
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A partial bright dot damaged less than half size of sub-pixel is not counted as a bright dot defect and should be specified below.

Inspection Item	Criteria
5% ND filter Not-visible	Ignored
5% ND filter Visible 2% ND filter Not-visible	Max. 5 allowed
2% ND filter Visible	Max. 2 allowed

7.1-2 Dark Dot

Dark Dot is defined as Dot (sub-pixel), which appears dark on the screen when the LCD Module displays at bright pattern.

Inspection Item	Criteria
R.G or B 1 dot	Max.7 allowed
Adjacent 2 dots (horizontal and vertical)	2 pairs
Minimum distance between dark dots	\geq 5mm

7.1-3

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■ Appearance Inspection

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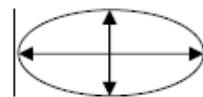
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Bubble/Dent	$0.5 < D \leq 1.0, N \leq 10$

Where, W (mm): Width

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D (mm): Average diameter

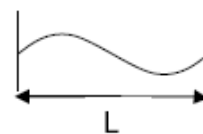


b(W)

D =

a (L)

Note) Linear: $a > 2b$, Circular: $a \leq 2b$



L = Longest point

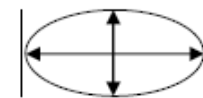
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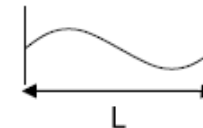


b(W)

D =

a (L)

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L = Longest point

7.4 Bezel Appearance

Scratches, minor bents, stains, particles on the Bezel frame are not considered defects.

7.5 Mura

Item	Criteria
White Spot / Black Spot	Mura should be invisible while 2% ND filter apply

All other kinds of Mura should be invisible while 2% ND filter applied, if still any argument, we can set up the limit sample to define it.

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9.3 Avoid dust or oil mist during assembly.

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9.5 The response time & brightness might vary at different temperature.

9.6 Avoid displaying at certain pattern (e.g. the white pattern) for a long time otherwise it might cause image sticking.

9.7 Be sure to turn off the power while connecting or disconnecting the circuit.

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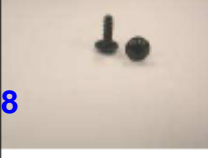
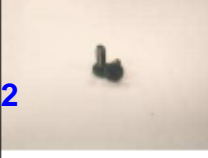

Z32LC6D




ITEM	SCREW P/N	DESCRIPTION	Q'TY	TORQUE (KGF-CM)	WHERE USE
1	8F.00530.8R0 LG P/N : FAB30009502	SCRW TAP TRU W/EXT M4*8L ZN 	1	8-10	AC Socket – Frame Down
2	8F.00550.120 LG P/N : FAB30012602	SCRW TAP RH W/FL M3*12 B-ZN 	2	6-8	Speaker – Bezel *2
3	8F.1G326.6R0 LG P/N : FAB30016403	SCRW MACH PH W/FL M4*6L B-ZN 	6	6-8	Frame Left – Panel *2 Frame Top – Panel *2 Frame Bottom – Panel *2
4	8F.00535.100 LG P/N : FAB30012001	STAND OFF M2.7*12.8L(S7)ZN 	4	4-6	SHD – Main Board *4
5	8F.PA324.100 LG P/N : FAB30018405	SCRW TAP PH M3*10L B-ZN 	2	4-6	CVR Rear – Main Board RCA *2
6	8F.SA324.8R0 LG P/N : FAB30123502	SCRW TAP BIND M3*8L B-ZN 	2	4-6	hdmi—connector cover*2
7	8F.VG334.6R0 LG P/N : FAB30013614	SCRW TAP PH W/F M3*6 TP-S B-ZN	3	6-8	CVR Rear – Frame *1 AC Socket – AC Socket Holder *2

					
8	8F.UG324.100 LG P/N : FAB30013210	SCRW TAP RH W/FL M3*10L B-ZN 	21	6-8	Frame Top – Bezel *3 Frame Bottom – Bezel *5 Side Board – CVR Side *2 CVR Side – Bezel *1 CVR Rear – Bezel *10
9	8F.VG234.6R0 LG P/N : FAB30007701	SCRW TAP PH W/F M3*6 TP-S ZN	18	6-8	Frame Right – Frame Top *1 Frame Right – Frame Bottom *1 Frame V Middle – Frame Top *1 Frame Left – Frame Top *1 Frame Left – Frame Bottom *1 BKT Stand Holder – Frame Bottom *3 Power Board – Frame Left *2 Power Board – Frame V Middle *2 Shielding – Frame V Middle *2 Shielding – Frame Right *2 AC Socket Holder – Frame Down *1 CVR Side – Frame Down *1
10	8F.VG324.120 LG P/N : FAB30013210	SCRW TAP PH W/FL M3*12L B-ZN	1	6-8	IR Board – Bezel *1
11	8F.8E356.240 LG P/N : FAB30016415	SCRW M M4*24L EXT/TOO B-ZN NYL	4	8-10	Stand – TV Set *4

For 37" model **Z37LC6D**

ITEM	SCREW P/N	DESCRIPTION	Q'TY	TORQUE (KGF-CM)	WHERE USE
1	8F.VG334.8R0 LG P/N : FAB30013614	SCRW TAP PH W/F M3*6 TP-S B-ZN 	4	6-8	SHELF AC—AC*2 Back cover—from v mid*1 Back cover—from right*1
2	8F.UG324.100 LG P/N : FAB30013210	SCRW TAP RH W/FL M3*10L B-ZN 	26	6-8	FRM TOP—bezel*2 FRM DOWN—bezel*4 Stand cvr—bezel*1 Connector cover—back cover*4 Back cover—bezel*11 Speaker COVER—bezel*2 Stand cvr-BACK COVER*2
3	8F.00555.120 LG P/N :FAB30012602	SCRW TAP RH W/FL M3*12L B-ZN	2	6-8	speaker—bezel*2

					
4	8F.8E356.240 LG P/N : FAB30016415	SCRW M M4*24L EXT/TOO B-ZN NYL 	4	8-10	neck—frame*4
5	8F.00535.100 LG P/N : FAB30012001	STAND OFF M2.7*12.8L(S7)ZN 	4	4-6	Main shd—D-SUB CONN *4
6	8f.00559.100 LG P/N : FAB30007507	SCRW TAP FH M3*10L C-ZN 	16	6-8	Plt base—base cover*8 PLASTIC NECK—NECK SKELETON*8
7	8f.RA326.120 LG P/N : FAB30006308	SCRW TAP TRU M4*12L B-ZN 	5	8-10	Plastic neck—plt base*5
8	8f. SA324.8r0 LG P/N : FAB30123502	SCRW TAP BIND M3*8L B-ZN 	2	4-6	hdmi—connector cover*2
9	8F.PA324.100 LG P/N : FAB30018405	SCRW TAP PH M3*10L B-ZN 	2	4-6	Connector cover—AV connector

10	8F.00530.8R0 LG P/N : FAB30009502	SCRW TAP TRU W/EXT M4*8L ZN 	1	6-8	AC—FRM DOWN
11	8F.1G326.6R0 LG P/N : FAB30016403	SCRW MACH PH W/FL M4*6L B-ZN 	6	6-8	PANEL—FRM RIGHT*2 PANEL—FRM LEFT*2 PANEL—FRM DOWN*2
12	8f.VG314.120 LG P/N : FAB30013210	SCRW TAP PH W/FL PT M3*12L B-Z 	1	6-8	IR BD-BEZEL
13	8F.VG234.6R0 LG P/N : FAB30007701	SCRW TAP PH W/F M3*6 TP-S ZN	37	6-8	FRM TOP—FRM RIGHT*1 FRM TOP—FRM LEFT*1 FRM TOP—FRM V MID*1 FRM DOWN—FRM RIGHT*1 FRM DOWN—FRM LEFT*1 FRM DOWN—FRM V MID*1 FRM V MID—FRM H TOP*1 FRM V MID—FRM H DOWN*2 FRM RIGHT—FRM H TOP*1 FRM RIGHT—FRM H DOWN*2 STD HOLDER CVR—FRM H DOWN*2 STD HOLDER CVR—FRM DOWN *2 POWER BD—FRM LEFT*2 POWER BD—FRM V MID*2 FRM RIGHT—SIDE BD*1 MAIN TOP SHD—FRM H TOP*2 MAIN TOP SHD—FRM H DOWN*2 SHELF AC—FRM DOWN*1 MAIN TOP SHD - MAIN BOTTOM SHD *7 MAIN BOTTOM SHD -MAIN BD*4

Total Screw Type: 13

Total Screw Q'TY: 110

ADJUSTMENT INSTRUCTION

1. Application Range

These instructions are applied to all of the LCD TV, LA75C Chassis.

2. Notice

- 1) Because this is not a hot chassis, it is not necessary to use an isolation transformer. However, the use of isolation transformer will help protect test instrument.
- 2) Adjustment must be done in the correct order. But it is flexible when its factory local problem occurs.
- 3) The adjustment must be performed in the circumstance of $25 \pm 5^{\circ}\text{C}$ of temperature and $65 \pm 10\%$ of relative humidity if there is no specific designation.
- 2.4 The input voltage of the receiver must keep 100~220V, 50/60Hz.
- 2.5 Before adjustment, execute Heat-Run for 30 minutes.

- After Receive 100% Full white pattern (06CH) then process Heat-run
(Or 6. White Pattern condition of Ez – Adjust)

- How to make set white pattern
 - A. Press Power ON button of Service Remocon
 - B. Press ADJ button of Service remocon to enter "Ez-Adjust". Select "6. WHITE PATTERN" and press ■ key. And 100% Full White pattern appear.

In this status you can maintain Heat-Run useless any pattern generator.

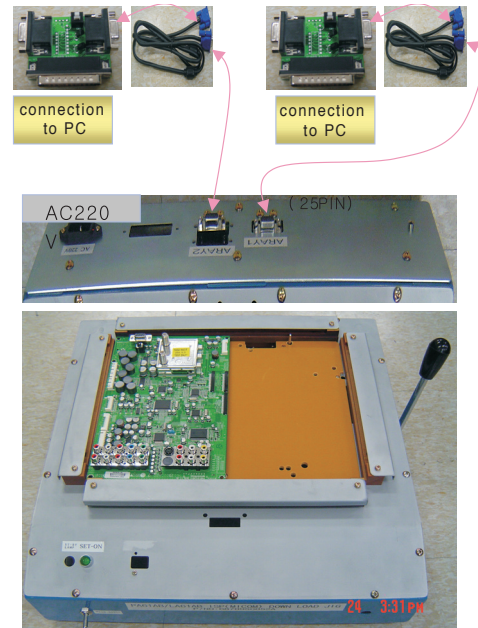
Notice) If you maintain one picture over 20 minutes (Especially sharp distinction black with white pattern – 13Ch, or Cross hatch pattern – 09Ch) then it can appear image stick near black level

3. MICOM Download(Optional)

3-1. Required Test Equipment

- (1) JIG-LEVER TYPE for adjusting: 1EA
- (2) PC & MONITOR: 2EA
- (3) BOARD for INTERFACE: IIC & ISP BOARD: 2EA
- (4) 15P D-SUB CABLE: 2EA
- (5) Using the 12/15 line of D-SUB 15P
12-SDA/15-SCL

3-2. JIG Connection

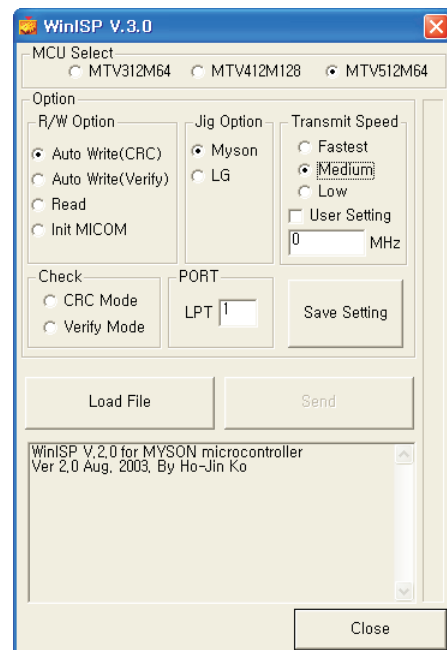


3-3. Establishment Program

- (1) Establish LGE Monitor Tools v1.1
- (2) The program work and it is opened program window as seen below.



- (3) Click the first icon shown in fig.9. The window seen in fig.10 should appear.

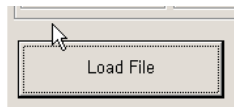


3-4. Set Method

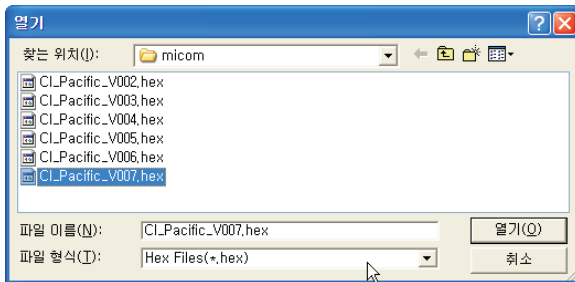
- (1) MCU Select: MTV412M128
- (2) Option
 - R/W Option: Auto Write(Verity)
 - Jig Option: Myson
 - Transmit Speed: Medium
- (3) Check: Just do it with blank micom.
- (4) PORT
 - Chose Parallel Port (normal LPT1)
 - Attention: You must chose EPP when select Rom BIAS at LPT

3-5. Download Method

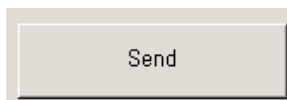
- (1) Click the Load File.



- (2) Locate and select the correct file from your computer. (*.hex).



- (3) Click the Send.



- (4) When you see (ISP COMPLETE) the download is complete.



4. Using RS-232C

- (1) Necessary items before Adjustment items
 - Pattern Generator : (MSPG-925FA)
 - Adjust 480i Comp1 (MSPG-925FA:model :209 , pattern :65)
 - Adjust 1080p Comp1/RGB (MSPG-925FA : model : 225, pattern :65)
- (2) Adjustment sequence
 - ad 00 00 : Enter the ADC Adjustment mode.
 - kb 00 04 : Change the mode to Component1 (No actions)
 - ad 00 10 : Adjust 480i Comp1(Change the mode and adjustment action)
 - kb 00 06 : Change to RGB-DTV mode(No action)
 - ad 00 10 : Adjust 1080p Comp1/RGB(Change the mode and adjustment action)
 - ad 00 90 : End of the adjustment

- (3) Adjustment protocol

Order	Command	Set response
1. Inter the Adjustment mode	ad 00 00	d 00 OK00x
2. Change the Source	kb 00 04	b 00 OK04x (Adjust 480i Comp1)
	kb 00 06	b 00 OK06x (Adjust 1080p Comp1/RGB)
3. Start Adjustment	ad 00 10	
4. Return the Response		OKx (Success condition)
		NGx (Failed condition)
5. Read Adjustment data	(main) ad 00 20	(main) 000000000000000000000000000000007c007b006dx
	(sub) ad 00 21	(Sub) 000000070000000000000000000000007c00830077x
6. Confirm Adjustment	ad 00 99	NG 03 00x (Failed condition)
		NG 03 01x (Failed condition)
		NG 03 02x (Failed condition)
		OK 03 03x (Success condition)
7. End of Adjustment	ad 00 90	d 00 OK90x

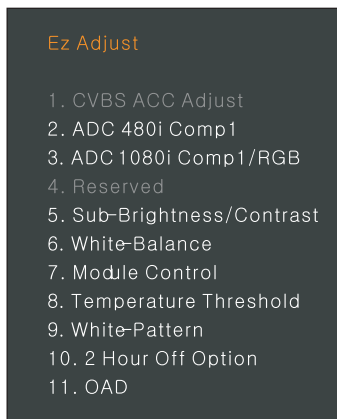
5. ADC-Set adjustment

5-1. Synopsis

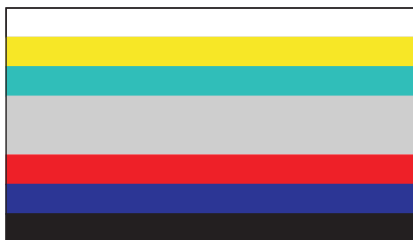
ADC-set is Gain and Black level setting at Analog to Digital converter, and compensate the RGB deviation

5-2. Test Equipment

Service R/C, 801GF(802V, 802F, 802R) or MSPG925FA Pattern Generator (It can output 480i/1080i horizontal 100% color bar pattern signal, and its output level must setting 0.7V±0.1V p-p correctly)



<Fig. 1> Adjustment Mode



<Fig. 2> Adjustment Pattern: 480i/1080P 60Hz HozTV30 Bar Pattern

5-3. Adjustment

(1) ADC 480i Component1 adjustment

- 1) Set Component 480i mode and 100% Horizontal Color Bar Pattern(HozTV31Bar), then set TV set to Component1 mode and its screen to "NORMAL"
- 2) After get the signal, wait more a second and enter the "Ez-Adjust" with press ADJ key of Service remocon. After then select "2.ADC 480i Comp1" with navigator button and press "Enter". It is automatically adjustment
- 3) You can see "ADC Component1 Success" message after Adjustment success
Error Messages: When its adjustment is not correct, "ADC Component1 480i Fail" message displayed. If component is not connection "Component1 Not Connected", its format is not 480i then "Not Valid Format", its signal don't out then "Check Signal Status" message displayed. These messages will be displayed just a second.

(2) ADC 1080p Component1 / RGB adjustment

- Check connection both of Component1 and RGB
 - MSPG-925FA -> Model: 225, Pattern 65
- 1) Set Component 1080p mode and 100% Horizontal Color Bar Pattern(HozTV31Bar), then set TV set to Component1 mode and its screen to "NORMAL"
 - 2) After get the signal, wait more a second and enter the "Ez-Adjust" with press ADJ key of Service remocon. After then select "4.ADC 1080p Comp1/RGB" with navigator button and press "Enter". First, it is automatically adjustment Component1.
 - 3) If adjustment is correctly finished, "ADC Component1 Success" message will be displayed. But adjustment is not correctly finished, "ADC Component1 1080p Fail" message will be displayed.
 - 4) After adjustment Component1 mode, move to RGB-DTV mode automatically and RGB adjustment start. After RGB Adjustment successfully finished, "ADC RGB 1080P Success" message will be displayed.
 - 5) If Adjustment doesn't success, check conditions all of the adjustment condition and adjustment again. See "Error Messages" sentence.
 - 6) After adjustment finished, press "ADJ" key and exit from Adjustment mode.

6. EDID (The Extended Display Identification Data)/ DDC (Display Data Channel) Download

6-1. Summary

It is established in VESA, for communication between PC and Monitor without order from user for building user condition. It helps to make easily use realize "Plug and Play" function.

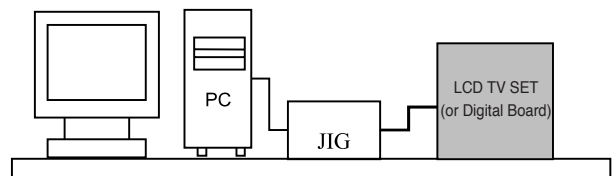
6-2. Write HDMI EDID data

(1) Using instruments

- 1) Jig. (PC Serial to D-Sub connection) for PC, DDC adjustment.
- 2) S/W for DDC recording (EDID data write and read)
- 3) D-sub jack
- 4) Additional HDMI cable connection Jig.

(2) Preparing and setting.

- 1) Set instruments and Jig. Like fig.4), then turn on PC and Jig.
- 2) Operate DDC write S/W (EDID write & read)
- 3) It will operate in the DOS mode.



<Fig. 3> Device configuration diagram for HDMI EDID Data input

6-3. EDID DATA for LA75C

(1) EDID data for LA75A Chassis

- HDMI1 EDID (DDC (Display Data Channel) Data
* 128byte

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	01	00	01	01	01	01
10	00	11	01	03	80	73	41	96	0A	CF	74	A3	57	4C	B0	23
20	09	48	4C	2F	CE	00	31	40	45	40	61	40	01	01	01	01
30	01	01	01	01	01	01	66	21	50	B0	51	00	1B	30	40	70
40	36	00	C4	8E	21	00	00	1E	0E	1F	00	80	51	00	1E	30
50	40	80	37	00	C4	8E	21	00	00	1E	00	00	00	FD	00	38
60	4B	1F	3C	09	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	5A	45	4E	49	54	48	0A	20	20	20	20	20	20	01	41

* 256byte

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	02	03	17	F1	47	84	05	03	02	20	22	10	23	11	07	50
10	66	03	0C	00	10	00	80	01	1D	00	72	51	D0	1E	20	6E
20	28	55	00	C4	8E	21	00	00	1E	01	1D	80	18	71	1C	16
30	20	58	2C	25	00	C4	8E	21	00	00	9E	8C	0A	D0	8A	20
40	E0	2D	10	10	3E	96	00	C4	8E	21	00	00	18	8C	0A	D0
50	8A	20	E0	2D	10	10	3E	96	00	13	8E	21	00	00	18	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	17

- HDMI2 EDID (DDC (Display Data Channel) Data
* 128byte

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	01	00	01	01	01	01
10	00	11	01	03	80	73	41	96	0A	CF	74	A3	57	4C	B0	23
20	09	48	4C	2F	CE	00	31	40	45	40	61	40	01	01	01	01
30	01	01	01	01	01	01	66	21	50	B0	51	00	1B	30	40	70
40	36	00	C4	8E	21	00	00	1E	0E	1F	00	80	51	00	1E	30
50	40	80	37	00	C4	8E	21	00	00	1E	00	00	00	FD	00	38
60	4B	1F	3C	09	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	5A	45	4E	49	54	48	0A	20	20	20	20	20	20	01	41

* 256byte

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	02	03	17	F1	47	84	05	03	02	20	22	10	23	11	07	50
10	66	03	0C	00	20	00	80	01	1D	00	72	51	D0	1E	20	6E
20	28	55	00	C4	8E	21	00	00	1E	01	1D	80	18	71	1C	16
30	20	58	2C	25	00	C4	8E	21	00	00	9E	8C	0A	D0	8A	20
40	E0	2D	10	10	3E	96	00	C4	8E	21	00	00	18	8C	0A	D0
50	8A	20	E0	2D	10	10	3E	96	00	13	8E	21	00	00	18	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	07

- Analog (RGB) EDID table - 128byte

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	01	00	01	01	01	01
10	00	11	01	03	68	73	41	96	0A	CF	30	A3	57	4C	B0	23
20	09	50	4E	A1	08	00	01	01	01	01	01	01	01	01	01	01
30	01	01	01	01	01	01	1B	21	50	A0	51	00	1E	30	48	88
40	35	00	C4	8E	21	00	00	1E	0E	1F	00	80	51	00	1E	30
50	40	80	37	00	C4	8E	21	00	00	1C	00	00	00	FD	00	38
60	4B	1F	3C	09	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	5A	45	4E	49	54	48	0A	20	20	20	20	20	20	00	84

* See Working Guide if you want more information about EDID communication.

7. Adjustment of White Balance

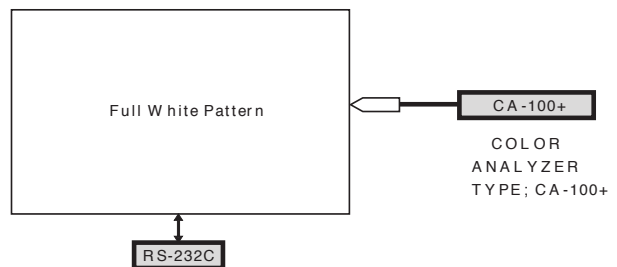
- Purpose: to reduce the difference in color temperature among modules
- Principal: A module is in full dynamic range when RGB Gain on OSD is 192. To adjust the white balance without causing full dynamic range and full data, fix one of RGB Gains at 192 and control the other two by reducing them from 192.

7-1. Required Equipment

- (1) Color Analyzer : CA-110 or CA-210
- (2) Automatic adjustor (with automatic adjustment necessity and the RS-232C communication being possible)

7-2. Connection Diagram of Equipment for Measuring (Automatic Adjustment)

Use the internal pattern to adjust White Balance. The pattern is automatically given when the automatic adjustment device is connected or when a user presses ADJ on the remote controller to start Ez Adjust and then selects 6.White-Balance.



Connection Diagram of Automatic Adjustment

* When you adjust LCD color temperature, on color analyzer (CA-210), you should use Channel 9 which is Matrix compensated (White, Red, Green, Blue revised) by CS-1000 and adjust in accordance with White balance adjustment coordinate which is specified on the next.

7-3. Adjustment of White Balance

(Automatic Adjustment)

- (1) Turn on the POWER ON(■) of the remote controller to set the adjustment and then start the automatic adjustment or set the Baud Rate to 115200.
- (2) Start the adjustment from "wb 00 00" and complete it at "wb 00 ff". (Adjust the offset if necessary)

- wb 00 00 the automatic adjustment of White Balance is started.
- wb 00 10 adjusting gain (internal pattern appears) is started.
- ja 00 ff adjusting data
- jb 00 c0
- ...
- wb 00 1f adjusting gain is completed.
- Adjust the offset (from wb 00 20 to wb 00 2f) if necessary.
- wb 00 ff the automatic adjustment of White Balance (internal pattern disappears) is completed.

*** RS-232C Command** (Automatic Adjustment)
- LA75C Chassis Model All

	RS-232C COMMAND [CMD ID DATA]			Min	CENTER (DEFAULT)(Decimal)			Max (Decimal)
	Cool	Mid	Warm		Cool	Mid	Warm	
R Gain	jg	ja	jd	00				192
G Gain	jh	jb	je	00				192
B Gain	ji	jc	jf	00				192
R Cut					64	64	64	
G Cut					64	64	64	
B Cut					64	64	64	

7-4. White Balance Adjustment(Manual)

(1) Test Equipment: CA-210

(2) Manual adjustment sequence is like bellowed one.

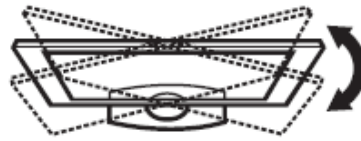
- 1) Turn to "Ez-Adjust" mode with press ADJ button of service remocon.
- 2) Select "9.Test Pattern" with CH+/- button and press enter. Then set will go on Heat-run mode. Over 30 minutes set let on Heat-run mode.
- 3) Let CA-210 to zero calibration and must has gap more 10cm from center of LCD module when adjustment.
- 4) Press "ADJ" button of service remocon and select "6.White-Balance" in "Ez-Adjust" then press "▶" button of navigation key. (When press "▶" button then set will go to full white mode)
- 5) Adjust at three mode (Cool, Medium, Warm)
 - When R Gain is fixed at 192
: Control G Gain and B Gain by reducing them from 192.
 - When B Gain is fixed at 192,
: Control R Gain and G Gain by reducing them from 192.
 - When G Gain is fixed to 192,
: Control R Gain and B Gain by reducing them from 192.

Fix one of three Gains (R Gain, G Gain, and B Gain) at 192 and control the other two by reducing values from 192 to prevent it from increasing.

(When RGB Gains are all 192, the module is in full dynamic range.)

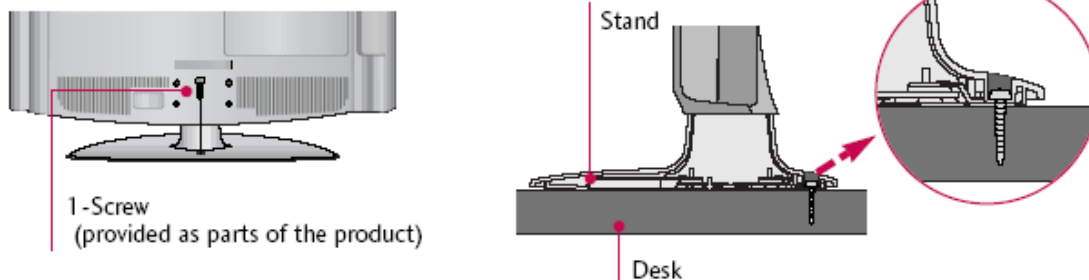
UL Vertical Force Stability Warning

After installing the TV, you can adjust the TV set manually to the left or right direction by 20 degrees to suit your viewing position.



ATTACHING THE TV TO A DESK (Only 26LG30)

The TV must be attached to a desk so it cannot be pulled in a forward/backward direction, potentially causing injury or damaging the product. Use only an attached screw.

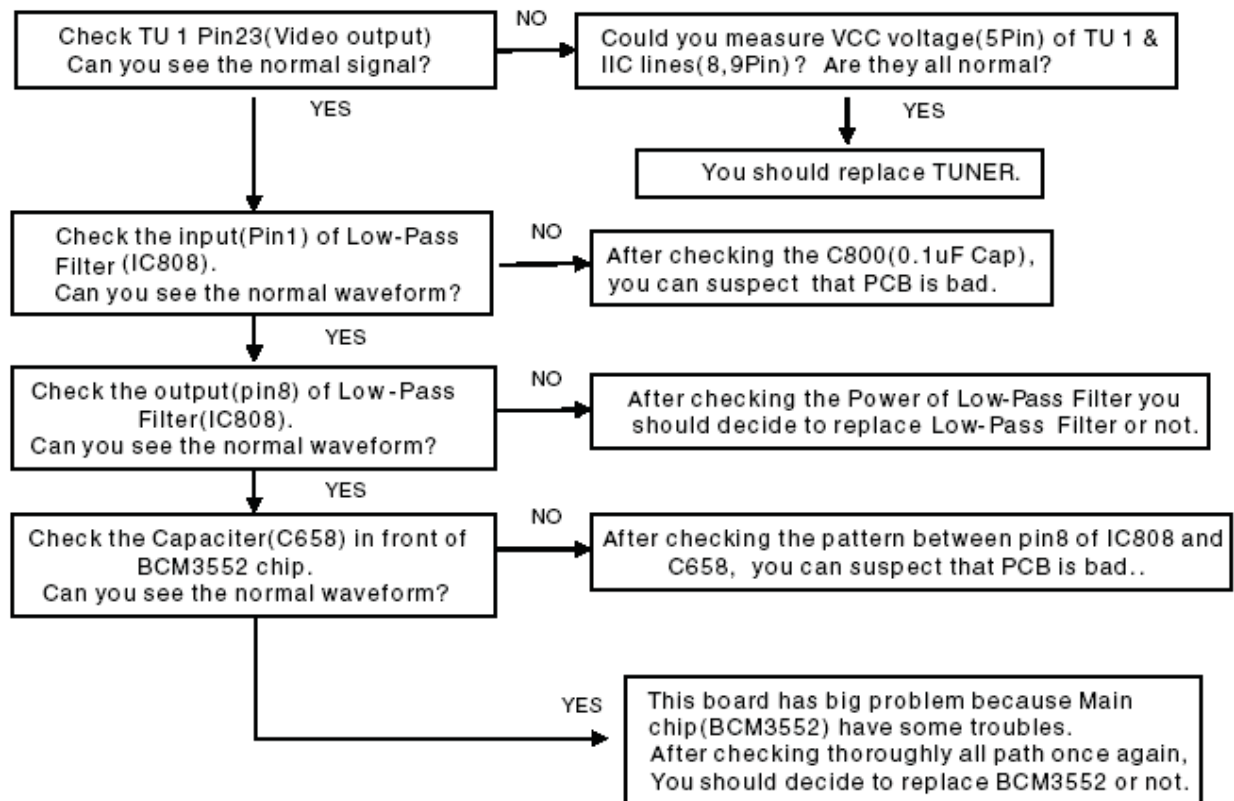


⚠ WARNING

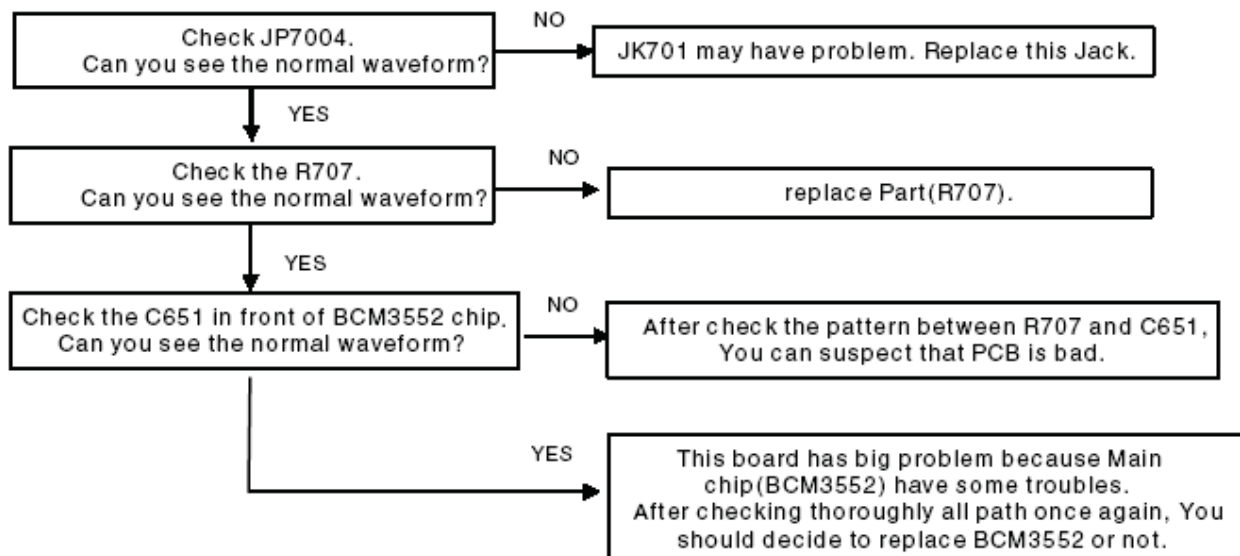
- ▶ To prevent TV from falling over, the TV should be securely attached to the floor/wall per installation instructions. Tipping, shaking, or rocking the machine may cause injury.

Guide for Trouble Shooting

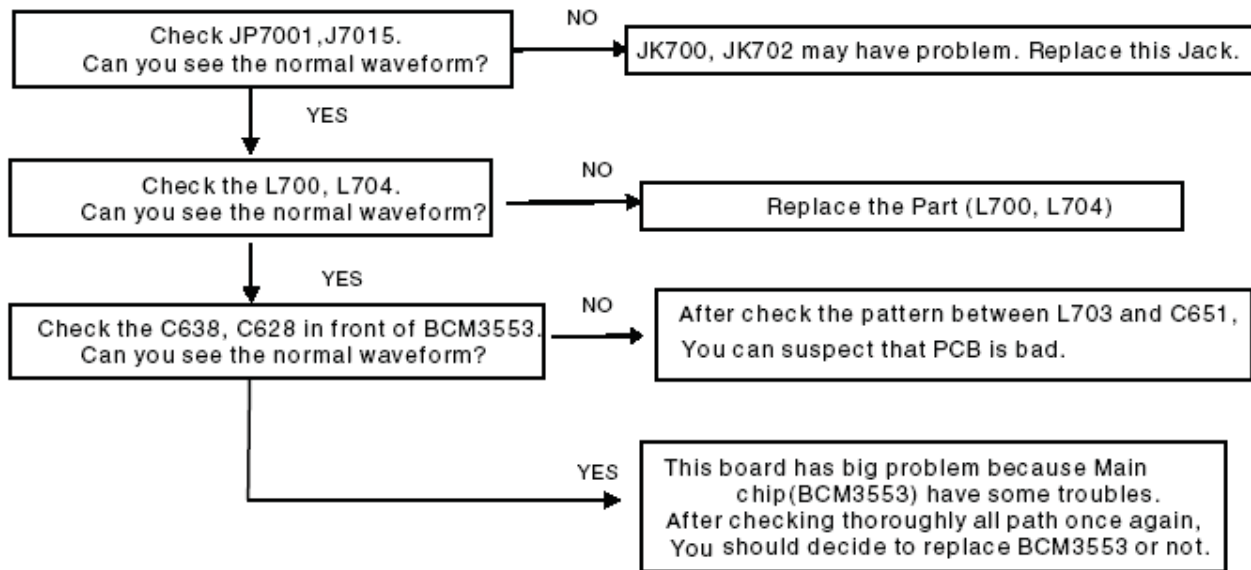
1. TV/CATV(Analog) doesn't display



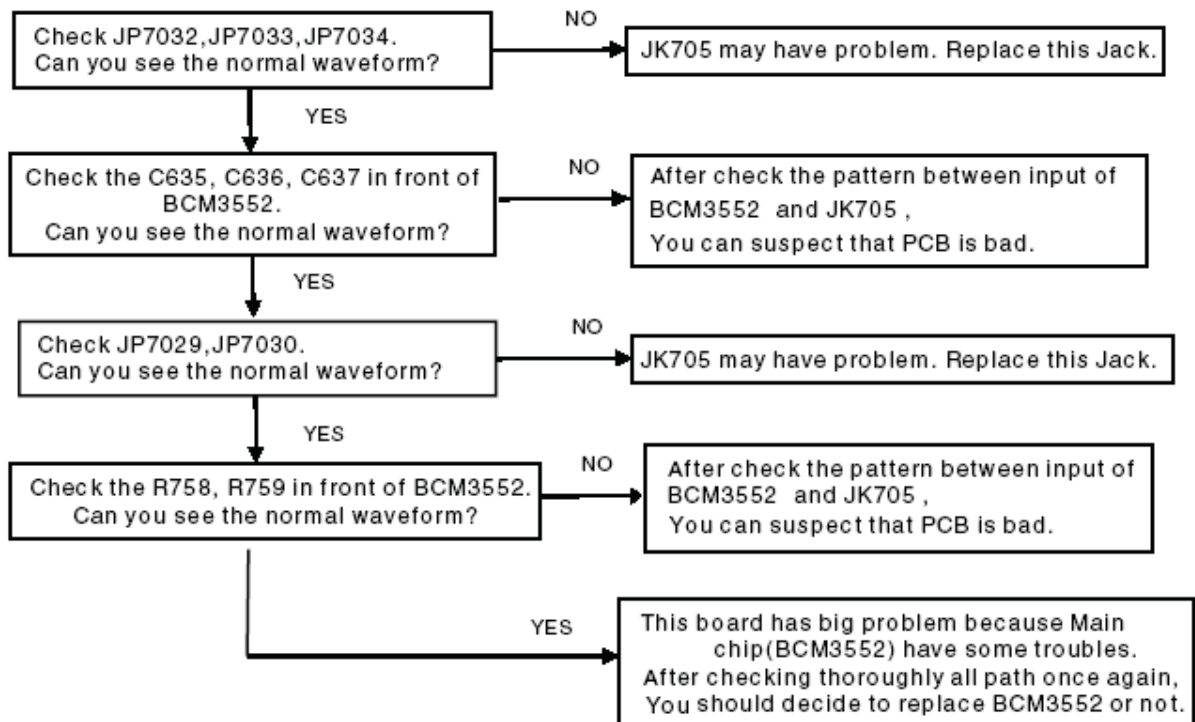
2. Video doesn't display



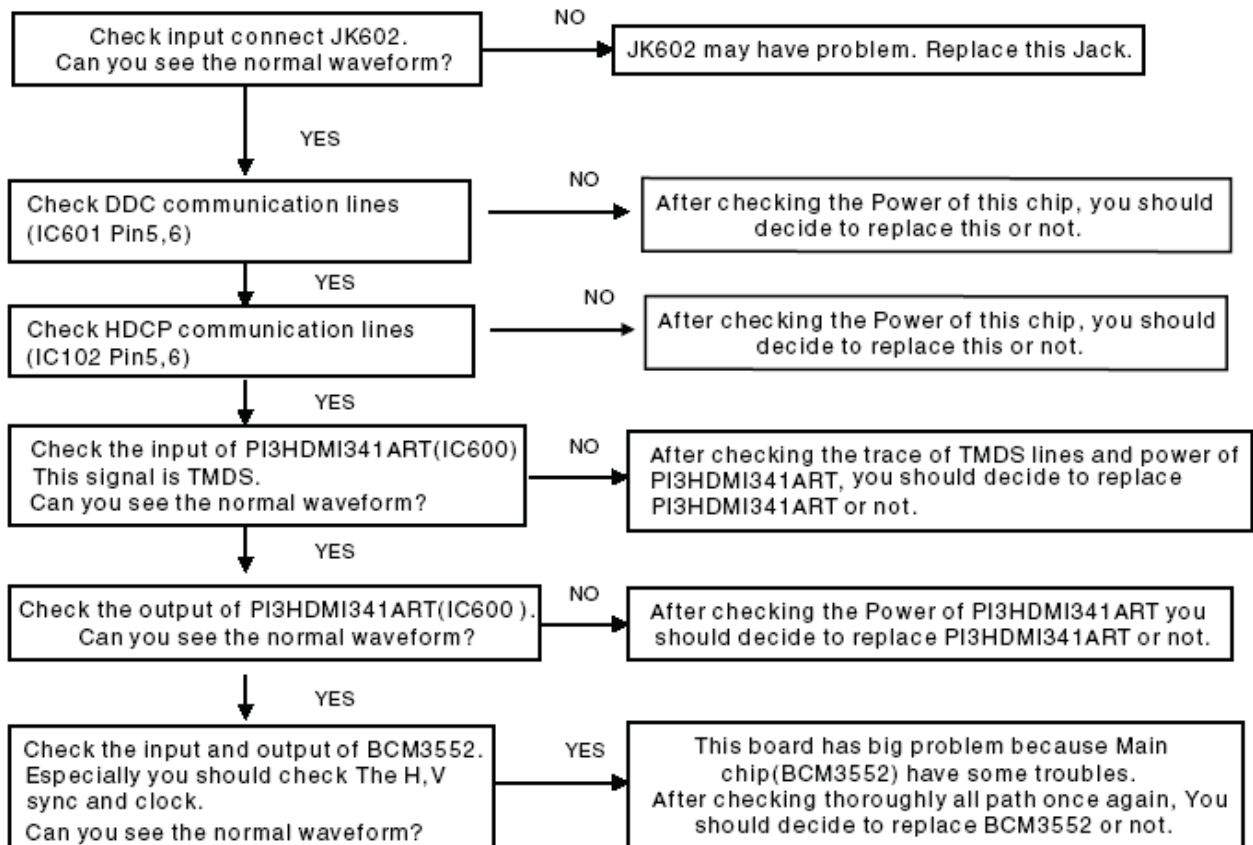
3. Component doesn't display



4. RGB_PC doesn't display

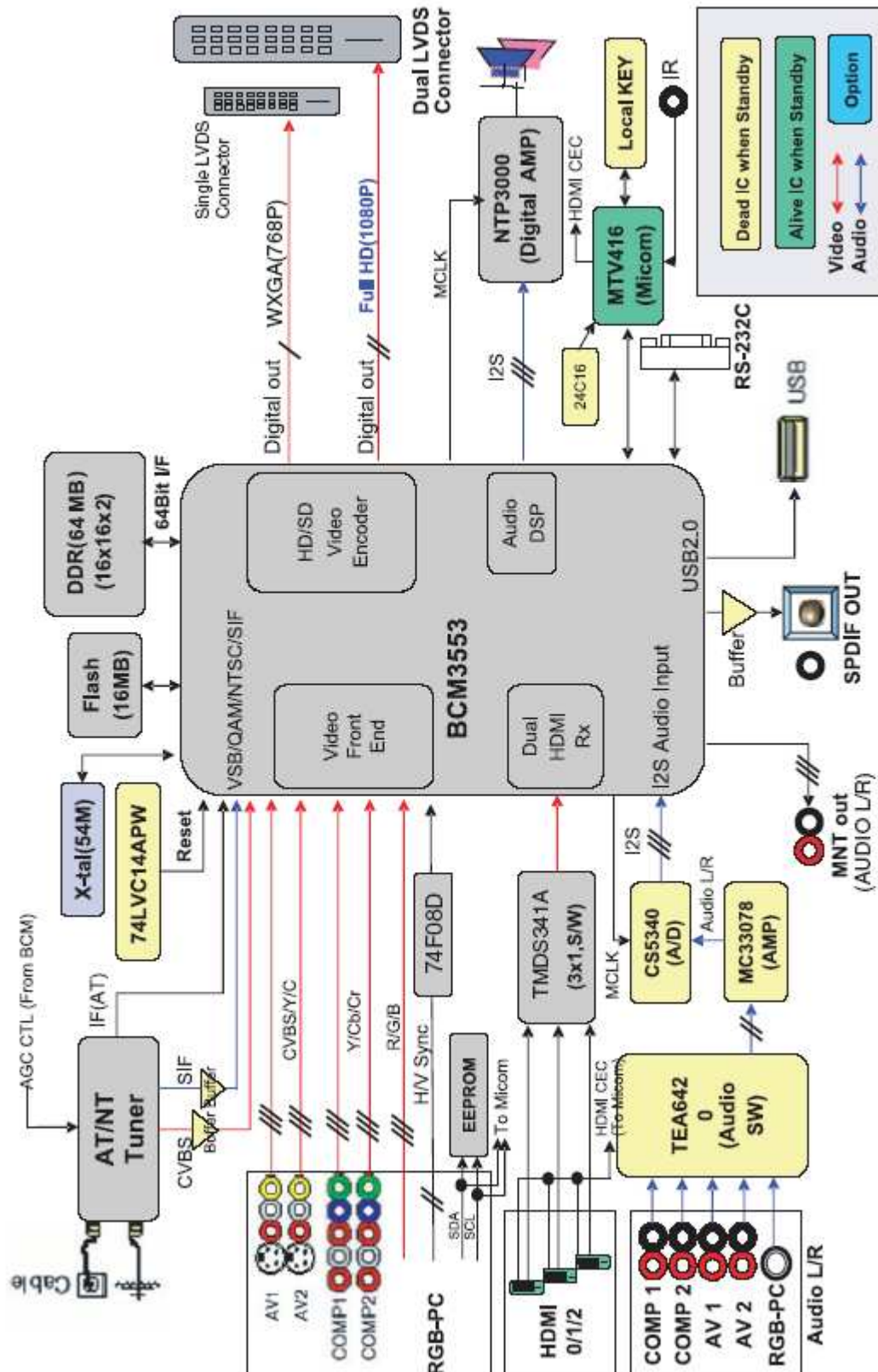


5. HDMI doesn't display

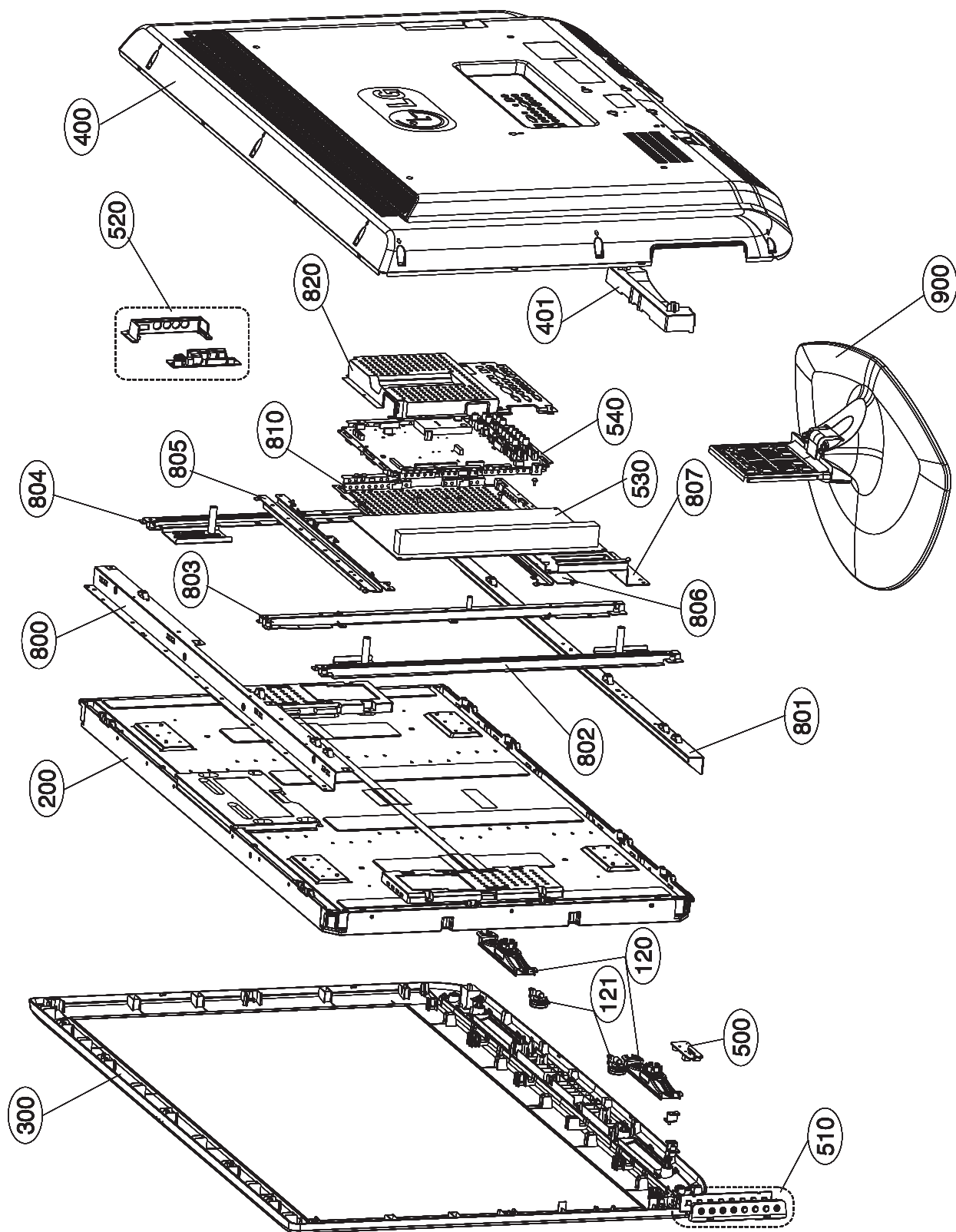


Circuit Operation Theory

BLOCK DIAGRAM



EXPLODED VIEW





P/NO : MFL39941411

Mar., 2008
Printed in Korea